6) RESEARCH PROCESS [Importance of each step in brief]

Research : Means search for knowledge.

Research process : It comprises defining and re-defining problem, formulating hypothesis, suggested solutions, collecting, organizing and evaluating data, making deductions and reaching conclusions (Clifford Woody).

Characteristic Features of Research are:

a) Systematic solving of scientific problems.

b) Using scientific methods for solving.

c) System of interconnecting phases and steps.

d) Valid and verifiable problems.

e) Empirical and critically analysing the problem.

Research Methods:

Research methods are the tools for Research process.

These are mainly two methods are,

a) Inductive Method :

→ In this method, the researcher starts his activity from the whole and arrives at the part.

Eg: Out of all the etiological factors for pancreatitis alcohol is universally as a sole cause.

b) Deductive Method :

→ It is opposite of inductive method.

Eg: Assessment of Prakruthi in an individual by observation and confirming it by Prakruthi analysis.

Difference between Inductive and Deductive Approach to Research:

- Inductive theory is an approach to research that starts with the observation and the end result of the research is theory.
- Deductive theory is an approach to research that starts with the proposition of hypothesis and the end result of the research is confirmation / rejection.

Steps in Research Process:

→ In the Research process, there are 7 main steps to conduct any Research project. They are as follows mentioned in the flow chart.

1. Selection of the Topic
↓
2. Review of Literature
↓
3. Formulation of Hypothesis
↓
4. Aims and Objectives
↓
5. Materials and Methods
↓
6. Observations and Results
↓
7. Discussion and Conclusion

1) Selection of the topic:

→ To identify any Research problem and developing your topic of interest. Before selecting any problem, the researcher should ask him / herself questions such as :

i) What is to be studied?
ii) When to study?
iii) Where to study?
iv) How to study?
v) Why to study?

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→ The 2 things Researcher should keep in mind while selecting research problem :

- The particular Research must add onto the existing knowledge. If it is not going to provide a new concept, at least it should be able to verify old knowledge.
- The Research work should be useful in keeping priority of public health policies.

2) Review of Literature : (finding background information)

→ To carry out any new Research work, the researcher has to refer the previous works done by the scientists in the concerned field. The main goal of any research work is to contribute in the knowledge domain and to improve the professional practice.

→ Review of literature can be done through,

- Primary sources are the databases that contain information about research articles that are published on the topic of interest.
- Secondary sources are the literature reviews that are published on topic of interest, consisting of a synthesis and analysis of previous researches published on that topic.

Sources of information:

- Previous work done
- All classical textbooks.
- Modern text books.
- Research articles published in the indexed journals like PUBMED.
- ARDB - Ayurvedic Research Database : a unique computer based database in the field of Ayurveda.

3) Formulation of Hypothesis :

- Hypothesis is a proposition or an assumption that one attempts to verify through experimentation or observation.
  Eg: Students study more effectively in a quiet place than in noisy one.
- The hypothesis is a tentative assumption made in order to draw out or test its logical and empirical consequences.
- It is useful to give the direction to the Researcher and it keeps the researcher on right track.
- It should consist of more established facts.

Types of Hypothesis:

There are two types of Hypothesis.

a) Null hypothesis (H_0)
b) Alternative hypothesis (H_1)

a) Null hypothesis (H_0) - One which is to be disproved.
Here researcher believes there is no relationship between the two variables or there is lack of information to state a scientific hypothesis.
Eg: Green tea Basti doesn't have effect in obesity management.

b) Alternative hypothesis (H_1) - One which is to be proved.
Here researcher attempt to disprove a null hypothesis.
Here researcher believes there is relationship between the two variables.
Eg: Green tea Basti does have effect in obesity management.